

ABSTRACT OF THE DISCLOSURE

The knuckle boom includes a hoist boom having a proximal end pivoted to a machine base, and a stick boom having a proximal end pivoted to a distal end of the hoist boom. At least one hydraulic hoist cylinder is mounted between the machine base and the hoist boom, and at least one hydraulic stick cylinder is mounted between the hoist boom and the stick boom. A hydraulic circuit supplies hydraulic oil to the cylinders, and provides an oil flow path between working ends of the cylinders so as to transfer a slug of pressurized hydraulic oil between the working ends. In one embodiment, reaching movement is controlled by a pump connected to control transferring of the slug between the hoist and stick cylinders. The pump determines which cylinder receives which portion of the slug of oil, and thereby controls the angle between the booms, thereby producing reach.